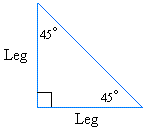
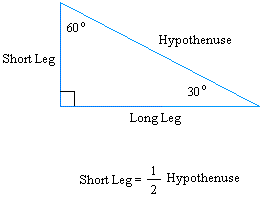
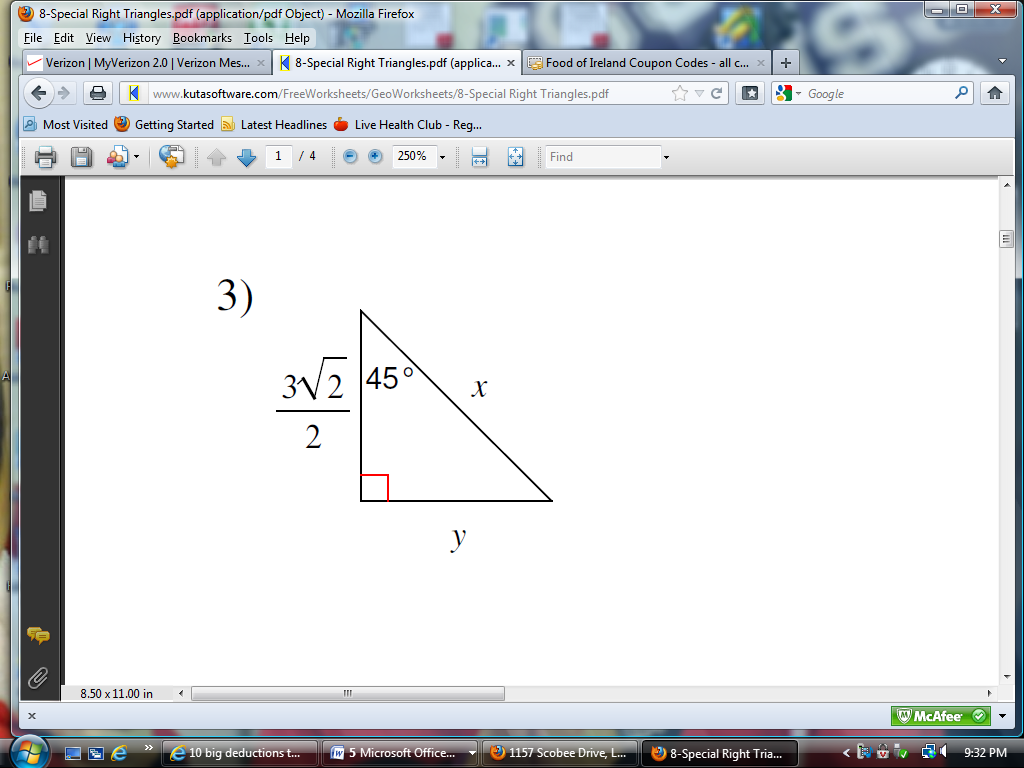
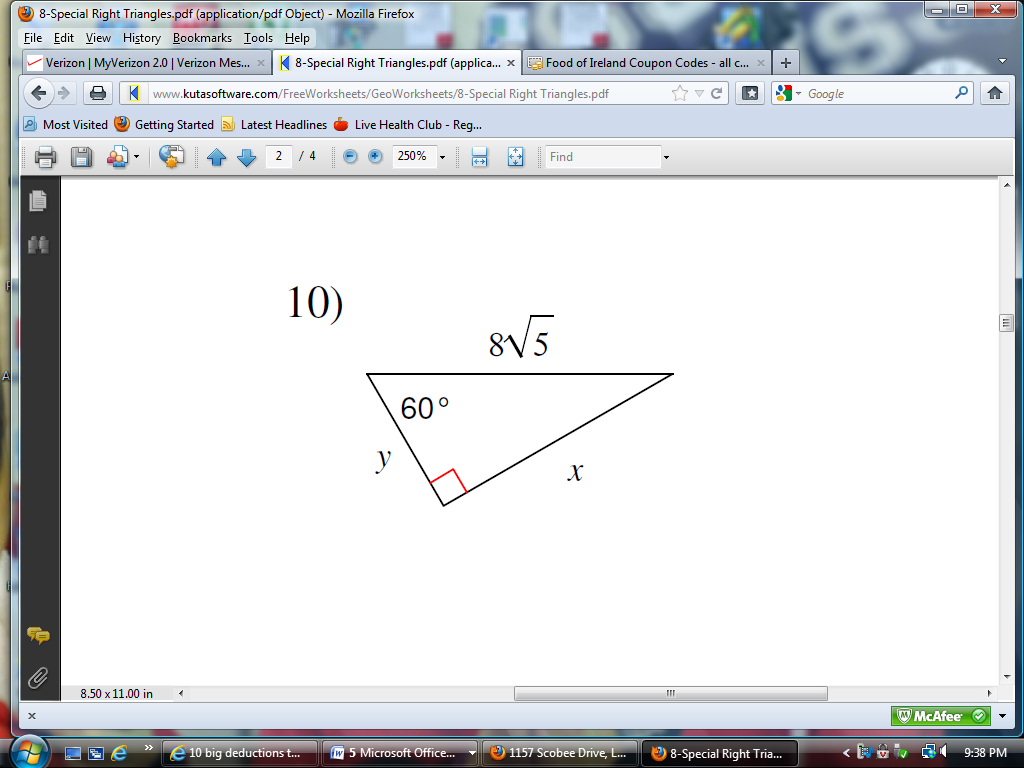
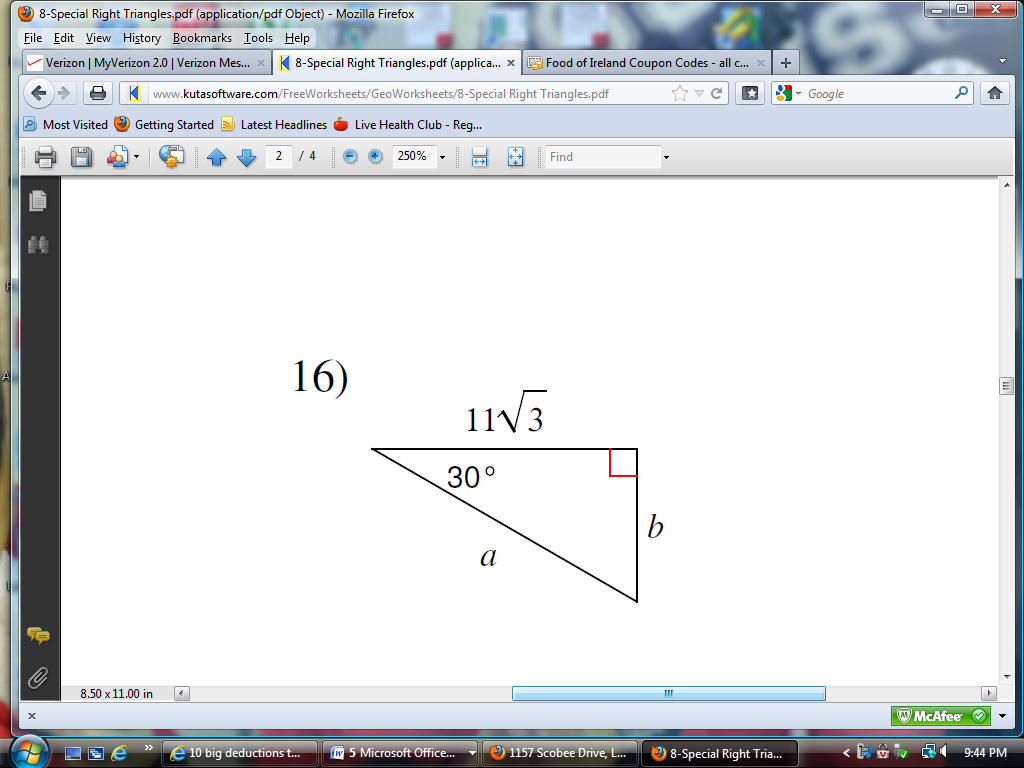
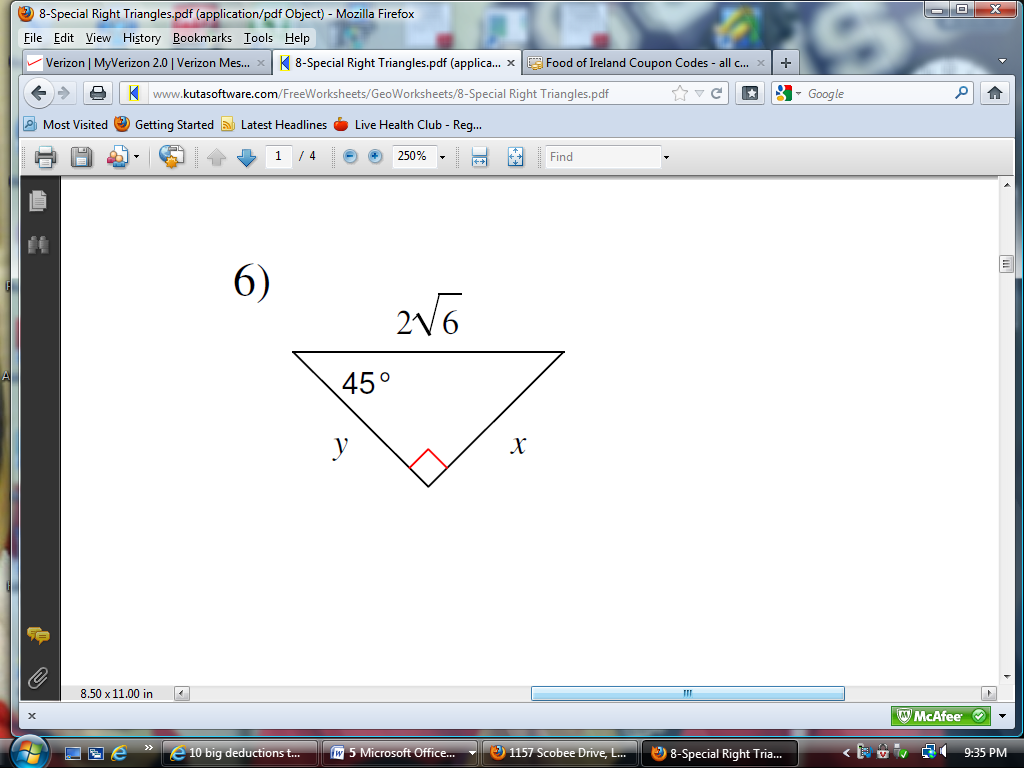
**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_December 17, 2014** **Pre-Algebra Practice Quiz #1 Show all work! Circle your answers!**

1. Below are Special Right Triangles. Write the lengths of each side in terms of *x.*



For numbers 2 through 5, solve for *x* and *y*.

2.) 3.)

4.)  5.) 

5.) What is a rational number?

6.) Can there be a right triangle with sides of length 1, 2, and 3? Why or why not?

7.) True or False: If the number M is rational, then 1/M must also be rational. If you say "True," explain why the statement is true. If you say "False," give a counter example to show that the statement is false -- that is, give an example of a number M which is rational but whose reciprocal 1/M is irrational.

8.) True or False: If the number M is irrational, then 1/M must also be irrational. If you say "True," explain why the statement is true. If you say "False," give a counter example to show that the statement is false -- that is, give an example of a number M which is irrational but whose reciprocal 1/M is rational.

9.) Is the product of two rational numbers always rational, never rational, or sometimes (but not always) rational? Justify your answer by giving reasons if you say "always" or "never" and examples if you say "sometimes."

10.) Is the product of two irrational numbers sometimes irrational, always irrational, or never irrational? Justify your answer by giving reasons if you say "always" or "never" and examples if you say "sometimes."

Simplify the following expressions.

11.)  12.) 

13.)  14.) 

15.)  16.) 

17.)  18.) 

Find the product of the following expressions and then simplify.

19.)  20.) 

21.)  22.) 

23.)  24.)  25.) 

26.)  27.)  28.) 

29.)  30.)  31.) 

Simplify the following expressions. Make sure the denominator is rationalized.

32.)  33.) 

34.)  35.) 

36.)  37.) 

38.)  39.) 

40.)  41.) 

Estimate the square root of each of the following numbers to the nearest whole number.

42.)  43.)  44.)  45.) 

46) A cruise ship travels 28 miles due north, then 45 miles due east. How far is the ship from where it started?

The following gives you either the legs of a right triangle or one leg and the hypotenuse. Find the missing side.

47.) 

48.) *a =* 11, *b* = ?, *c* = 61

49.) 

50.) 